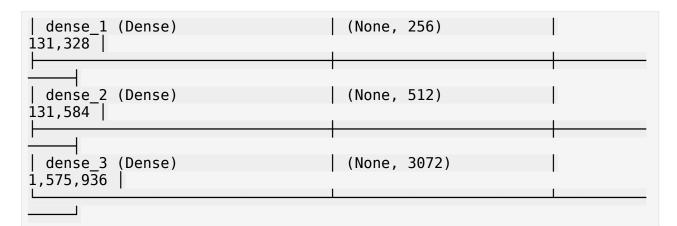
```
import tensorflow as tf
from tensorflow.keras import layers, models
import matplotlib.pyplot as plt
input dim = 32 * 32 * 3
encoding dim = 256
input img = tf.keras.Input(shape=(input dim,))
encoded = layers.Dense(512, activation='relu')(input img)
encoded = layers.Dense(encoding dim, activation='relu')(encoded)
decoded = layers.Dense(512, activation='relu')(encoded)
decoded = layers.Dense(input dim, activation='sigmoid')(decoded)
autoencoder = models.Model(input img, decoded)
autoencoder.compile(optimizer='adam', loss='mse')
autoencoder.summary()
(x_train, _), (x_test, _) = tf.keras.datasets.cifar10.load_data()
x_train = x_train.reshape(len(x_train), input_dim) / 255.0
x \text{ test} = x \text{ test.reshape}(len(x \text{ test}), input dim) / 255.0
history = autoencoder.fit(x train, x train, epochs=10, batch size=256,
validation data=(x test, x test), verbose=0)
plt.plot(history.history["loss"], label="Train Loss")
plt.plot(history.history["val loss"], label="Val Loss")
plt.xlabel("Epoka")
plt.ylabel("Strata rekonstrukcji")
plt.legend()
plt.grid()
plt.show()
Model: "functional"
Layer (type)
                                    Output Shape
Param #
  input layer (InputLayer)
                                    (None, 3072)
0
 dense (Dense)
                                    (None, 512)
1,573,376
```



Total params: 3,412,224 (13.02 MB)

Trainable params: 3,412,224 (13.02 MB)

Non-trainable params: 0 (0.00 B)

Downloading data from https://www.cs.toronto.edu/~kriz/cifar-10-

python.tar.gz

170498071/170498071 — 7s Ous/step

